SIEMENS

# Data sheet for SIMOTICS S-1FT7



Figure similar

**Article No. :** 1FT7102-1AC71-1DG1

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

| Engineering data | |
|---|---|
| Rated speed | 2,000 rpm |
| Number of poles | 10 |
| Rated torque (100 K) | 24.0 Nm |
| Rated current | 10.00 A |
| Static torque (60 K) | 25.0 Nm |
| Static torque (100 K) | 30.0 Nm |
| Stall current (60 K) | 10.50 A |
| Stall current (100 K) | 12.50 A |
| Rotor moment of inertia | 91.40 kgcm² |
| Efficiency | 93.0 % |

| Physical constants | |
|---|---|
| Torque constant | 2.40 Nm/A |
| Voltage constant at 20° C | 152.0 V/1000*min$^{-1}$ |
| Winding resistance at 20° C | 0.30 Ω |
| Rotary field inductance | 6.2 mH |
| Electrical time constant | 20.70 ms |
| Mechanical time constant | 1.40 ms |
| Thermal time constant | 70 min |
| Shaft torsional stiffness | 181,000 Nm/rad |
| Net weight of the motor | 26.1 kg |

| Mechanical data | |
|---|---|
| Motor type | Permanent-magnet synchronous motor |
| Motor type | Compact core type |
| Shaft height | 100 |
| Cooling | Natural cooling |
| Radial runout tolerance | 0.050 mm |
| Concentricity tolerance | 0.100 mm |
| Axial runout tolerance | 0.100 mm |
| Vibration severity grade | Grade A |
| Degree of protection | IP65 |
| Design acc. to Code I | IM B5 (compatible with 1FT6) |
| Temperature monitoring | Pt1000 temperature sensor |
| Color of the housing | Standard (pearl dark gray similar to RAL 9023) |
| Shaft end type | Plain shaft |
| Sensor design | Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits |
| Safety Integrated - Suitable encoder | Yes |
| Electrical connection | Connector turnable |
| Connector size | 1.5 |

| Optimum operating point | |
|---|---|
| Optimum speed | 2,000 rpm |
| Optimum power | 5.0 kW |

| Limiting data | |
|---|---|
| Max. permissible speed (mech.) | 6,000 rpm |
| Max. permissible speed (inverter) | 3,800 rpm |
| Maximum torque | 120.0 Nm |
| Maximum current | 64.00 A |

| Recommended Motor Module | |
|---|---|
| Rated inverter current | 18.00 A |
| Maximum inverter current | 54.00 A |
| Maximum torque | 106.0 Nm |

Subject to change. Calculated values may differ from nameplate ratings. © Copyright Siemens